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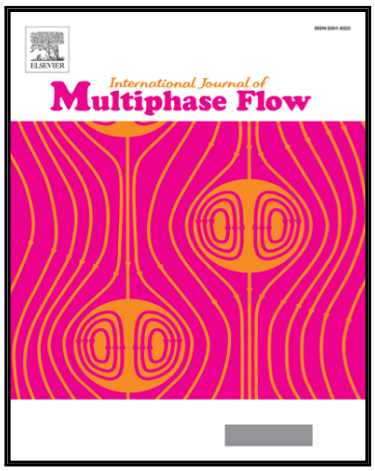

Numerical study of advanced dispersion models in particle-laden swirling flows

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PII: S0301-9322(17)30642-0
DOI: 10.1016/j.ijmultiphaseflow.2018.01.010
Reference: IJMF 2718

To appear in: *International Journal of Multiphase Flow*

Received date: 28 August 2017
Revised date: 17 November 2017
Accepted date: 8 January 2018

Please cite this article as: S. Kazemi, M. Adib, E. Amani, Numerical study of advanced dispersion models in particle-laden swirling flows, *International Journal of Multiphase Flow* (2018), doi: 10.1016/j.ijmultiphaseflow.2018.01.010

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Highlights

- Advanced dispersion models are evaluated for particle-laden swirling flows.
- Without dispersion modeling, the correct particle-vortex interaction is not captured.
- Advanced PDF and MOB models perform well in the prediction of particle statistics.
- MOB is the most accurate model in predicting the cross-stream particle velocity fluctuations.
- Particle concentration is the most sensitive parameter to the choice of dispersion model.

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